

ATTACHMENT F – FACT SHEET

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As described in Section II.D of this Order, the Colorado River Basin Water Board incorporates this Fact Sheet as findings of the Colorado River Basin Water Board supporting the issuance of this Order. This Fact Sheet includes the legal requirements and technical rationale that serve as the basis for the requirements of this Order.

This Order has been prepared under a standardized format to accommodate a broad range of discharge requirements for dischargers in California. Only those sections or subsections of this Order that are specifically identified as “not applicable” have been determined not to apply to this Discharger. Sections or subsections of this Order not specifically identified as “not applicable” are fully applicable to this Discharger.

I. Permit Information

The following table summarizes administrative information related to the Facility.

Table F-1. Facility Information

WDID	7A 13 0128 003
Discharger	Imperial Irrigation District
Name of Facility	El Centro Generating Station
Facility Address	485 East Villa Road
	El Centro, CA 92243
	Imperial County
Legally Responsible Official	Mario Escalera, Operations Manager, (760) 339-9430
Facility Contact, Title and Phone	Wayne Lane, Principle Engineer, (760) 457-5404
Authorized Person to Sign and Submit Reports	Mario Escalera, Operations Manager, (760) 339-9430
Mailing Address	P.O. Box 937 Imperial, CA 92251
Billing Address	SAME
Type of Facility	Industrial
Major or Minor Facility	Minor
Threat to Water Quality	1
Complexity	A
Pretreatment Program	N
Recycling Requirements	None
Facility Permitted Flow	0.995 million gallons per day (MGD)
Facility Design Flow	0.995 MGD
Watershed	Brawley Hydrologic Area (H.A)
Receiving Water	Central Drain No. 5, a tributary to the Alamo River
Receiving Water Type	Agricultural Drain

The Imperial Irrigation District (Discharger) is the owner and operator of the El Centro Generating Station (Facility), a gas and oil-fired power plant. For the purposes of this Order, references to the “Discharger” or “Permittee” in applicable federal and state laws,

regulations, plans, or policy are held to be equivalent to references to the Discharger herein.

The Facility discharges wastewater to Central Drain No. 5, a water of the United States, tributary to the Alamo River. The Discharger was previously regulated by Order R7-2014-0005 and National Pollutant Discharge Elimination System (NPDES) Permit No. CA0104248, which was adopted on June 26, 2014 and expired on June 30, 2019. However, pursuant to California Code of Regulations, title 23, section 2235.4, the terms and conditions of an expired permit are automatically continued pending reissuance of the permit if the Discharger complies with all federal NPDES requirements for continuation of expired permits.

Attachment B provides a map of the area around the Facility. Attachment C provides a flow schematic of the Facility.

The Discharger filed a report of waste discharge and submitted an application for reissuance of its WDRs and NPDES permit on December 28, 2018. Supplemental information was requested and received on March 13, 2019. The application was deemed complete on April 16, 2019. A site visit was conducted on March 20, 2019 to observe operations and collect additional data to develop permit limitations and requirements for waste discharge.

II. Facility Description

Imperial Irrigation District owns and operates the El Centro Generating Station, a gas and oil-fired power plant located in the city of El Centro. IID is a publicly-owned utility providing irrigation water, farm drainage services, and electric power to customers in Imperial County and parts of Riverside and San Diego counties. The Facility is a steam electric generating facility that provides immediate and base load electrical power to serve the Imperial Valley and consists of three steam turbine generators and three gas turbine generators, with a total of four generating units. Units 1, 2, 3, and 4 began operating in 1949, 1952, 1957, and 1968, respectively. Unit 2 was repowered in 1992; Unit 3 was repowered in 2012. The total capacity of the Facility is 347 megawatts and power generating units are primarily natural gas-fired. The Facility has the ability to utilize No. 2 fuel oil; however, this fuel option is not currently in use. All units are cooled using water circulated through unit-specific cooling towers. The Facility utilizes four cooling towers, five fuel storage tanks, and six raw water storage/settling basins. Colorado River water via the Dogwood Canal is used to provide water for cooling and other facility operations. Raw water entering the Facility is treated with a clarifying agent to control bacterial, fungal, and algal growth prior to storage in the basins. Canal water is passed through a screen to remove large debris and then through a series of settling basins to remove sediment. Settling basin effluent is then pumped through Reverse Osmosis (RO) units and is de-ionized prior to being stored in surge tanks for cooling tower make-up. A reverse osmosis (RO) and demineralization system is utilized for additional water treatment. All units are cooled using water circulated through unit specific cooling towers. The Facility has a potential to discharge a maximum of 0.995 million gallons per day (MGD) of industrial cooling water (i.e., commingled cooling tower blowdown, reverse osmosis reject water, and evaporative cooling water) to Central Drain No. 5.

A. Description of Wastewater Treatment System

The Facility injects a number of chemicals into the cooling water stream to prevent biofouling and scaling on the condenser tubes. Cooling tower supply water is treated with corrosion inhibitors, scale inhibitors, dispersants, biological control agents, coagulants, and flocculants. Cooling tower make-up is added to the system as feed water. Cooling tower blowdowns occur periodically based on operational hours, heat transfer demands, and mineral composition of the cooling water. All units are cooled using water circulated through unit specific cooling towers.

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In addition, chlorination is used as an oxidizing biocide. Chlorine treatment occurs in four-hour cycles approximately once every twelve hours. Sulfuric acid is added to the system to maintain proper pH balance. Up to 21,600 gallons per day (gpd) of RO-treated effluent (prior to de-ionization), is used for the evaporative cooler. Bleed-off from the evaporative cooler is directed through an oil water separator for treatment.

On September 15, 2011, the Colorado River Basin Water Board issued Cease and Desist Order (CDO) R7-2011-0044 to the Facility to provide a schedule for compliance with effluent limitations for copper, selenium, and cyanide through evaluation and implementation of alternative methods of treatment and disposal. In accordance with the CDO, the Facility has constructed two Class I, non-hazardous wastewater deep underground injection wells (UIWs), IW-1 (2,750 feet) and IW-3 (2,740 feet) on the Facility's property, to discharge wastewater under UIC Permit CA10600002. EPA provided the Facility authorization to inject on August 24, 2012 and the Facility commenced discharge to IW-1 and IW-3 on May 10, 2013. Wastewater disposed of through the UIWs is collected in a water storage pond, receives filtration in series using a disc filter 910-20 microns) followed by a carbon filter (5-microns), and is injected into IW-1 and IW-3. The UIW system was not performing as expected upon initial operation; therefore, the Facility ceased UIW discharges and returned discharges to Central Drain No. 5 for the period from May 2013 to October 2013. However, in October 2013, the Facility re-commenced discharges using IW-1 and IW-3 and closed the valves to the surface water discharge outfall. A minor modification permit to permit No. CA10600002 was approved in late 2014 to increase the injection pressure at the wellhead from 210 psi to 550 psi. Currently the injection rate permitted by the USEPA is 1.71 MGD.

Discharge to surface waters commences seasonally, normally during the summer months, and is comprised of cooling tower blowdown, RO reject water, and evaporative cooling water, which are commingled in a collection vault. Sodium bisulfate is added to de-chlorinate the effluent at the collection vault prior to discharge from Discharge Point 001 to Central Drain No. 5, a water of the United States.

Electronic Self-Monitoring Reports available via CIWQS indicate that the Facility discharged as follows:

Year	UIWs	Central Drain No. 5
------	------	---------------------

2014	November–December	July–October
2015	January–June November–December	July–October
2016	January–June October–December	July–September
2017	January–May October–December	June–September
2018	January–June September–December	July--August
2019	January–June	

The Discharger indicated in the ROWD the following list of chemicals that are added to the waste streams from the Facility include:

- i. Nalco 8103 plus (flocculent)
- ii. Nalco 3DT199 (copper corrosion inhibitor)
- iii. Nalco 3DT185 (corrosion inhibitor)
- iv. Nalco 3DT134 (t scale inhibitor)
- v. Nalco 7320 (non-oxidizing biocide)
- vi. Nalco 7408 (dechlorinator)
- vii. Sulfuric acid (pH control)
- viii. Sodium hypochlorite (biological control)

B. Discharge Points and Receiving Waters

Final effluent is discharged through Discharge Point 001 at Latitude 32° 48' 14.8" North and Longitude 115° 32' 39.2" West, to Central Drain No. 5, which flows into the Alamo River, and thence into the Salton Sea, a water of the United States. The permitted maximum daily flow limitation is equal to the design capacity of the wastewater treatment plant which is 0.995 MGD. The discharge consists of industrial cooling water.

C. Summary of Historic Requirements and Self-Monitoring Report (SMR) Data

Effluent limitations contained in the existing Order R7-2014-0005 for discharges from Discharge Point 001 (Monitoring Location EFF-001A) and representative monitoring data from the term of the previous Order are as follows in Table F-2:

Table F-2. Historic Effluent Limitations and Monitoring Data

Parameter	Units	Effluent Limitation			Monitoring Data (From July 2014 – December 2017)		
		Average Monthly	Average Weekly	Maximum Daily	Highest Average Monthly Discharge	Highest Average Weekly Discharge	Highest Daily Discharge
Flow	MGD	0.995	--	--	0.59	--	0.82
Total Suspended Solids (TSS)	mg/L	30	--	--	--	--	195.2 ¹
pH	--	--	--	6.0 – 9.0 ²	--	--	5.71 – 8.3 ³
Copper, Total Recoverable	µg/L	20	--	39	790 ⁴	--	790 ⁵
	lbs/day	0.17	--	0.32	2.24	--	2.24 ⁶
Selenium, Total Recoverable	µg/L	4.1	--	8.2	48.9 ⁷	--	48.9 ⁷
	lbs/day	0.034	--	0.068	0.14	--	0.14 ⁸
Zinc, Total Recoverable	µg/L	151	--	304	400 ⁹	--	400 ¹⁰
	lbs/day	1.25	--	2.52	1.13	--	1.13
Cyanide, Free (Final)	µg/L	3.1	--	9.4	8 ¹¹	--	8
	lbs/day	0.026	--	0.078	0.04	--	0.04
Bis(2-ethylhexyl) Phthalate	µg/L	5.9	--	12	44 ¹²	--	44 ¹³
	lbs/day	0.049	--	0.10	0.12	--	0.12 ¹⁴
PCBs	µg/L	15			All data is Non-Detect		
Chlorine, Total Residual	mg/L	0.01	--	0.02 ¹⁶	0.09 ¹⁷	--	0.33 ¹⁸
	lbs/day	0.083	--	--	0.4	--	1.32
Total Dissolved Solids (TDS)	mg/L	19			--	--	3,704
Acute Toxicity	TU _a	20			0.59		
Chronic Toxicity – Survival & Reproduction (<i>Ceriodaphnia dubia</i>)	TU _c	20			1		
Chronic Toxicity – Growth (<i>Selenatrum capricornutum</i>)	TU _c	20			1		
Chronic Toxicity – Survival and Growth (Pimephales promelas)	TU _c	20			4 ²¹		
<p>This value (December 31, 2014) represents a reported exceedance of the permit limitation. The Discharger reported exceeding this effluent limitation fourteen times during the permit term; reported values greater than the effluent limitation ranged from 31 mg/L to 195.2 mg/L. This range represents the instantaneous minimum and maximum pH limitations, respectively.</p> <p>This range of reported pH values indicates the discharge violated pH effluent limitations. The Discharger reported one value below 6.0 s.u. (5.71 on September 7, 2017).</p>							

This value (October 31, 2015) represents a reported exceedance of the average monthly effluent limitation. The Discharger reported exceeding this effluent limitation 12 times during the permit term; reported values greater than the effluent limitation ranged from 76.11 µg/L to 790 µg/L.

This value (October 28, 2015) represents a reported exceedance of the maximum daily effluent limitation. The Discharger reported exceeding this effluent limitation 14 times during the permit term; reported values greater than the effluent limitation ranged from 76.11 µg/L to 790 µg/L.

This value (October 28, 2015) represents a reported exceedance of the permit limitation. The Discharger exceeded this effluent limitation seven times during 2015-2017; reported values greater than the effluent limitation ranged from 0.39 lbs/day to 2.24 lbs/day.

This value (August 3, 2017) represents a reported exceedance of the average monthly and maximum daily effluent limitations. This is the only value reported greater than the effluent limitation between 2014 and 2018.

This value (August 3, 2017) represents a reported exceedance of the permit limitation. The Discharger reported exceeding this effluent limitation one time during 2014-2017.

This value (October 31, 2015) represents a reported exceedance of the average monthly effluent limitation. The Discharger exceeded this effluent limitation four times during 2014-2017; reported values greater than the average monthly effluent limitation ranged from 169 µg/L to 400 µg/L.

This value (October 28, 2015) represents a reported exceedance of the permit limitation. The Discharger reported exceeding this effluent limitation two times between 2015 and 2017; reported values greater than the effluent limitation ranged from 369.7 µg/L to 400 µg/L.

This value (September 30, 2016) represents a reported exceedance of the average monthly effluent limitation. The Discharger reported exceeding this effluent limitation three times during 2014-2017; reported values greater than the average monthly effluent limitation ranged from 4 µg/L to 8 µg/L.

This value (July 31, 2016) represents a reported exceedance of the average monthly effluent limitation. The Discharger reported exceeding this effluent limitation four times during 2014-2017; reported values greater than the average monthly effluent limitation ranged from 7.1 µg/L to 44 µg/L.

This value (July 12, 2016) represents a reported exceedance of the maximum daily effluent limitation. The Discharger reported exceeding this effluent limitation three times between 2014 and 2017; reported values greater than the effluent limitation ranged from 12.3 µg/L to 44 µg/L.

This value (December 7, 2016) represents a reported exceedance of the permit limitation. The Discharger reported exceeding this effluent limitation one time during 2014-2017.

There shall be no discharge of polychlorinated biphenyl compounds such as those commonly used for transformer liquid.

The effluent limitation is expressed an instantaneous maximum value.

This value (July 31, 2017) represents a reported exceedance of the average monthly effluent limitation. The Discharger reported daily values for total residual chlorine and based on this data, the Discharger reported exceeding this effluent limitation 5 times during 2014-2017; reported values greater than the effluent limitations ranged from 0.02 mg/L to 0.09 mg/L.

This value (June 7, 2017) represents a reported exceedance of the instantaneous maximum effluent limitation. The Discharger reported daily values for total residual chlorine and based on this data, the Discharger reported exceeding this effluent limitation 24 times during 2014-2017; reported values greater than the effluent limitations ranged from 0.03 mg/L to 0.33 mg/L.

Discharges of wastes or wastewater shall not increase the total dissolved solids content of receiving waters, unless it can be demonstrated to the satisfaction of the Colorado River Basin Water Board that such an increase in total dissolved solids does not adversely affect beneficial uses of receiving waters.

There shall be no toxicity in the treatment plant effluent nor shall the treatment plant effluent cause any toxicity in the receiving water.

This value (January 28, 2015 and December 15, 2015) represents reported exceedances of the permit limitation. The Discharger reported exceeding this effluent limitation four times during 2014-2017; reported values greater than the effluent limitation ranged from 1 TU_c to 4 TU_c.

The ROWD described the existing discharge as follows:

Annual Average Effluent Flow – 0.36 MGD

Maximum Daily Effluent Flow – 0.53 MGD

Average Daily Effluent Flow – 0.36 MGD

Table 3 presents the effluent characteristics reported in the ROWD and EPA Form 2E.

Table F-3. Effluent Characteristics

Parameter	Units	Maximum Daily	Average Daily
pH (Minimum)	s.u.	6.92	---
pH (Maximum)	s.u.	9.22	---
Temperature (Winter)	°F	36.3	
Temperature (Summer)	°F	38.0	35.2

Parameter	Units	Maximum Daily	Average Daily
BOD ₅ (EFF-001)	mg/L	5.76	
TSS (EFF-001)	mg/L	39.6	24.2
Fecal Coliform	MPN/100 ml	N/A	
Ammonia as Nitrogen	mg/L	0.56	
Chemical oxygen demand (COD)	mg/L	86.0	
Total organic carbon (TOC)	mg/L	18	
Oil and Grease	mg/L	< 2.5	

D. Past Compliance Summary

The available effluent monitoring data indicates that the Facility has had several reported effluent limitation violations for copper, selenium, zinc, Bis(2-ethylhexyl)Phthalate, total residual chlorine, and pH summarized below:

Table F-4. Violations Report Summary (7/15/2014 – 8/31/2018)

Parameter	Limit Basis	Permit Limitation	Unit	No. of Violation
Copper	Maximum Daily	39	µg/L	42
Chlorine, Total Residual	Instantaneous Maximum	0.02	mg/L	39
Bis (2-Ethylhexyl) Phthalate	Maximum Daily	12	µg/L	9
Selenium	Maximum Daily	8.2	µg/L	6
Zinc	Maximum Daily	304	µg/L	3
pH	Instantaneous Maximum	6	Standard Unit	2

The violations summary provided by CIWQS indicates that regarding the violations for copper and other metals, the Discharger has cleaned the injection wells to improve injectability and began investigating treatment options to levels of metals in the effluent. Regarding chlorine effluent limitation violations, CIWQS includes the Discharger's comments that they are investigating a change in design to provide an improved mix of dechlorinator with the effluent.

As noted above, the Colorado River Basin Water Board previously issued a CDO in 2011 (R7-2011-0044) to the Facility to provide a schedule for compliance with effluent limitations for copper, selenium, and cyanide through evaluation and implementation of alternative methods of treatment and disposal.

E. Planned Changes

The Discharger indicated during the permitting site visit conducted March 13, 2019, that there are no planned changes for the Facility during the upcoming permit term.

F. Applicable Plans, Policies, and Regulations

The requirements contained in this Order are based on the requirements and authorities described in this Section.

G. Legal Authorities

This Order serves as WDRs pursuant to article 4, chapter 4, division 7 of the California Water Code (commencing with section 13260). This Order is also issued pursuant to section 402 of the federal Clean Water Act and implementing regulations adopted by the USEPA and chapter 5.5, division 7 of the Water Code (commencing with section 13370). It shall serve as an NPDES permit for point source discharges from this Facility to surface waters.

H. California Environmental Quality Act (CEQA)

This Order serves as both an NPDES permit for discharges subject to the Clean Water Act and as WDRs for discharges subject to the California Water Code. Pursuant to Water Code section 13389, this action to adopt an NPDES permit is exempt from CEQA (Public Resources Code section 21000 et seq.). Under California Code of Regulations, title 14, section 15301, the Colorado River Basin Water Board's action in approving those parts of the Order that implement state law is also exempt from CEQA, because the Facility is an existing facility with negligible or no expansion of existing use.

I. State and Federal Laws, Regulations, Policies, and Plans

1. Water Quality Control Plan. The Water Quality Control Plan for the Colorado River Basin Region (Basin Plan), which was adopted on November 17, 1993 and amended on March 7, 2017, designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters addressed through the plan. The requirements in this Order implement the Basin Plan and protect existing and potential beneficial uses of the receiving water, which are described in Table F-5:

Table F-5. Basin Plan Beneficial Uses

Discharge Point	Receiving Water Name	Beneficial Use(s)
001	Imperial Valley Drains (Central Drain No. 5)	<u>Existing:</u> Fresh Water Replenishment (FRSH); Water Contact Recreation (REC-I) ^{1, 2} ; Non-Contact Water Recreation (REC-II) ¹ ; Warm Freshwater Habitat (WARM); Wildlife Habitat (WILD); and Support of Rare, Threatened, or Endangered Species (RARE). ³

¹ Unauthorized use.

² The only REC-I use that is known to occur is from infrequent fishing activity.

³ Rare, endangered, or threatened wildlife exists in or utilizes some of these waterway(s). If the RARE beneficial use may be affected by a water quality control decision, responsibility for substantiation of the existence of rare, endangered, or threatened species on a case-by case basis is upon the California Department of Fish and Wildlife on its own initiative and/or at the request of the Colorado River Basin Water Board. Such substantiation must be provided within a reasonable time frame as approved by the Colorado River Basin Water Board.

2. Thermal Plan. The State Water Board adopted the *Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Waters and Enclosed Bays and Estuaries of California* (Thermal Plan) on January 7, 1971 and amended this plan on September 18, 1975. The plan contains temperature objectives for surface waters. The Thermal Plan does not apply these objectives to Central Drain No. 5 (Imperial Valley Drains), an agricultural drain, because agricultural drainage channels do not have a “natural” receiving water temperature.

3. National Toxics Rule (NTR) and California Toxics Rule (CTR). USEPA adopted the NTR on December 22, 1992, and later amended it on May 4, 1995 and November 9, 1999. About forty criteria in the NTR applied in California. On May 18, 2000, USEPA adopted the CTR. The CTR promulgated new toxics criteria for California and, in addition, incorporated the previously-adopted NTR criteria that were applicable in the state. The CTR was amended on February 13, 2001. These rules contain federal water quality criteria for priority pollutants.

4. State Implementation Policy. On March 2, 2000, the State Water Board adopted the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (State Implementation Policy or SIP). The SIP became effective on April 28, 2000, with respect to the priority pollutant criteria promulgated for California by the USEPA through the NTR and to the priority pollutant objectives established by the Colorado River Basin Water Board in the Basin Plan. The SIP became effective on May 18, 2000, with respect to the priority pollutant criteria promulgated by the USEPA through the CTR. The State Water Board adopted amendments to the SIP on February 24, 2005, that became effective on July 13, 2005. The SIP establishes implementation provisions for priority pollutant criteria and objectives and provisions for chronic toxicity control. Requirements of this Order implement the SIP.

5. Stormwater Requirements. USEPA promulgated federal regulations for stormwater on November 16, 1990 in 40 C.F.R. parts 122, 123, and 124. The NPDES Industrial Stormwater Program regulates stormwater discharges from wastewater treatment facilities. Wastewater treatment plants are applicable industries under the stormwater program and are obligated to comply with the federal regulations.

6. Endangered Species Act Requirements. This Order does not authorize any act that results in the taking of a threatened or endangered species or any act that is now prohibited, or becomes prohibited in the future, under either the California Endangered Species Act (Fish and Game Code, §§ 2050 to 2097) or the federal Endangered Species Act (16 U.S.C. §§ 1531 to 1544). This Order requires compliance with effluent limits, receiving water limits, and other requirements to protect the beneficial uses of waters of the state. The Discharger is responsible for meeting all requirements of the applicable Endangered Species Act.

7. Antidegradation Policy. 40 C.F.R. section 131.12 requires that the state water quality standards include an antidegradation policy consistent with the federal policy. The State Water Board established California’s antidegradation policy in State Water Board Resolution 68-16, *Statement of Policy with Respect to Maintaining High Quality of Waters in California*. Resolution 68-16 is deemed

to incorporate the federal antidegradation policy where the federal policy applies under federal law. Resolution 68-16 requires that existing water quality of high quality waters be maintained unless degradation is justified based on specific findings. The Colorado River Basin Water Board's Basin Plan implements, and incorporates by reference, both the state and federal antidegradation policies. The permitted discharge must be consistent with the antidegradation provisions of 40 C.F.R. section 131.12 and State Water Board Resolution 68-16.

8. Anti-Backsliding Requirements. Sections 402(o) and 303(d)(4) of the Clean Water Act and federal regulations at 40 C.F.R. section 122.44(i) restrict backsliding in NPDES permits. These anti-backsliding provisions require that effluent limitations in a reissued permit must be as stringent as those in the previous permit, with some exceptions in which limitations may be relaxed.

J. Impaired Water Bodies on Clean Water Act 303(d) List

Section 303(d) of the federal Clean Water Act requires states to identify waterbodies that do not meet water quality standards and are not supporting their beneficial uses after implementation of technology-based effluent limitations on point sources. Each state must submit an updated list, the 303(d) List of Impaired Waterbodies (303(d) List) every 2 years. In addition to identifying the waterbodies that are not supporting beneficial uses, the 303(d) List also identifies the pollutant or stressor causing impairment and establishes a schedule for developing a control plan to address the impairment. On July 15, 2015, USEPA gave final approval to California's 2012 303(d) List.

Central Drain No. 5. The 303(d) List classifies the Imperial Valley Drains, which includes Central Drain No. 5, as impaired by chlordane, dichlorodiphenyltrichloroethane (DDT), dieldrin, polychlorinated biphenyls (PCBs), selenium, toxaphene, and sediment/siltation. However, the Central Drain No. 5 is specifically only listed as being impaired by the following constituents: PCBs, sediment, and selenium. A sedimentation/siltation Total Maximum Daily Load (TMDL) for the Imperial Valley Drains was approved by USEPA on September 30, 2005. The sedimentation/ siltation TMDL only establishes Waste Load Allocations (WLA) for three Imperial Valley drains (Niland 2, P, and Pumice) and their tributary drains (Vail 4A, Vail 4, Vail 3A, Vail 3, and Vail 2A feed into Pumice). Accordingly, there are no TMDL allocations that apply to the issuance of this permit for Central Drain No. 5.

The Alamo River. The Alamo River, to which Central Drain No. 5 is tributary, is listed as impaired for chlordane, chloride, chlorpyrifos, DDT, diazinon, dieldrin, indicator bacteria (enterococcus and *E. coli*), malathion, PCBs, sediment/siltation, selenium, toxaphene, and toxicity. A sedimentation/siltation Total Maximum Daily Load (TMDL) for the Alamo River was approved by USEPA on June 28, 2002. The TMDL establishes a wasteload allocation (WLA) of 95.0 tons of suspended solids per year for the El Centro Generating Station. The TMDL specifies that for the El Centro Generating Station, a facility without current TSS limitations at the time of issuance, a 30 mg/L TSS limitation is used for the effluent limitation in calculating the WLA. The proposed Order implements the sedimentation/siltation TMDL and additional applicable technology-based requirements contained in 40 C.F.R. part 423.

The Salton Sea. The Alamo River is tributary to the Salton Sea. The 303(d) List classifies the Salton Sea as impaired by arsenic, chloride, chlorpyrifos, DDT, enterococcus, low dissolved oxygen, nitrogen-ammonia (total ammonia), nutrients, salinity, and toxicity. The Colorado River Basin Water Board has not developed TMDLs addressing these impairments to date. Tributaries to the Salton Sea, including the receiving water, may be affected by the development of TMDLs for the Salton Sea.

K. Other Plans, Policies, and Regulations

Stormwater Management. For the control of stormwater discharged from the site of the wastewater treatment facilities, dischargers typically must seek authorization to discharge under and meet the requirements of the State Water Board's Order 2014-0057-DWQ, NPDES General Permit No. CAS000001, *Waste Discharge Requirements for Discharges of Storm Water Associated with Industrial Activities*. At this time, the Facility is enrolled in the Industrial General Permit.

III. Rationale For Effluent Limitations and Discharge Specifications

The Clean Water Act requires point source dischargers to control the amount of conventional, non-conventional, and toxic pollutants that are discharged into the waters of the United States. The control of pollutants discharged is established through effluent limitations and other requirements in NPDES permits. There are two principal bases for effluent limitations in the Code of Federal Regulations: 40 C.F.R. section 122.44(a) requires that permits include applicable technology-based limitations and standards; and 40 C.F.R. section 122.44(d) requires that permits include water quality-based effluent limitations to attain and maintain applicable numeric and narrative water quality criteria to protect the beneficial uses of the receiving water. Where reasonable potential has been established for a pollutant, but there is no numeric criterion or objective for the pollutant, water quality-based effluent limitations (WQBELs) may be established: (1) using USEPA criteria guidance under Clean Water Act section 304(a), supplemented where necessary by other relevant information; (2) on an indicator parameter for the pollutant of concern; or (3) using a calculated numeric water quality criterion, such as a proposed state criterion or policy interpreting the state's narrative criterion, supplemented with other relevant information, as provided in 40 C.F.R. section 122.44(d)(1)(vi).

Effluent and receiving water limitations in this Order are based on the federal Clean Water Act, the Basin Plan, the State Water Board's plans and policies, USEPA guidance and regulations, and best practicable waste treatment technology. While developing effluent limitations and receiving water limitations, monitoring requirements, and special conditions for the draft permit, the following information sources were used:

9. NPDES Application Forms: California Form 200, USEPA Forms 2C dated December 28, 2018.

10. Title 40 of the Code of Federal Regulations.

11. The Basin Plan, as adopted on November 17, 1993 and amended on March 17, 2017.

12. Colorado River Basin Water Board files related to the Imperial Irrigation District, El Centro Generation Station, NPDES permit No. CA0104248.

A. Discharge Prohibitions

- 1. Discharge Prohibition III.A.** (The discharge of waste to land is prohibited unless authorized in a separate waste discharge permit.)

This prohibition has been retained from Order No. R7-2014-0004. The limitations and conditions established by the Order are based on specific information provided by the Discharger (including through the ROWD) and gained by the Colorado River Basin Water Board through site visits, monitoring reports, and by other means. Discharges of a character not contemplated by this Order, such as discharges to land, are therefore inconsistent with Clean Water Act section 402's prohibition against discharges of pollutants except in compliance with the Act's permit requirements, effluent limitations, and other enumerated provisions. This prohibition is also based on the Basin Plan to protect the beneficial uses of the receiving water from unpermitted discharges, and it is in keeping with the intent and requirements of Water Code sections 13260 through 13264.

- 2. Discharge Prohibition III.B.** (The discharge of treated wastewater from the Facility at a location or in a manner different from that described in this Order is prohibited.)

This prohibition has been retained from Order No. R7-2014-0004. The limitations and conditions established by the Order are based on specific information provided by the Discharger (including through the ROWD) and gained by the Colorado River Basin Water Board through site visits, monitoring reports, and by other means. Discharges to surface waters at locations not contemplated by this Order, or discharges of a character not contemplated by this Order, are therefore inconsistent with Clean Water Act section 402's prohibition against discharges of pollutants except in compliance with the Act's permit requirements, effluent limitations, and other enumerated provisions. This prohibition is also based on the Basin Plan to protect the beneficial uses of the receiving water from unpermitted discharges, and it is in keeping with the intent and requirements of Water Code sections 13260 through 13264.

- 3. Discharge Prohibition III.C.** (The discharge of trash from the Facility to Central Drain No. 5, a tributary to the Alamo River, is prohibited.)

This prohibition has been retained from Order No. R7-2014-0004. The Basin Plan prohibits conditions that create a nuisance.

- 4. Discharge Prohibition III.D.** (The bypass or overflow of untreated or partially-treated wastewater or wastes to Central Drain No. 5 is prohibited, except as allowed under Sections I.G (Bypass) and I.H (Upset) of Attachment D, Standard Provisions.)

This prohibition has been retained from Order No. R7-2014-0004, with minor modifications. The discharge of untreated or partially-treated wastewater from the Discharger's collection, treatment, or disposal facility represents an unauthorized bypass pursuant to 40 C.F.R. section 122.41(m) or an unauthorized discharge which poses a threat to human health and/or aquatic life, and therefore is explicitly prohibited by this Order.

- 5. Discharge Prohibition III.E.** (The Discharge of waste in excess of the design treatment or disposal capacity of the system, 0.995 million gallons per day (MGD), is prohibited.)

This prohibition has been retained from Order No. R7-2014-0004 and is based on the design capacity of the Facility. Exceedance of this capacity may result in effluent violations and/or the need to bypass untreated effluent blended with treated effluent, which is prohibited by this Order.

- 6. Discharge Prohibition III.F.** (The discharge of waste that causes contamination, pollution, or nuisance as defined in Water Code section 13050, subdivisions (k), (l), and (m), respectively, is prohibited.)

This prohibition has been retained from Order No. R7-2014-0004, with minor modifications, and is based on section 13050 of the Water Code. The Basin Plan also prohibits conditions that create a nuisance or cause contamination or pollution.

B. Technology-Based Effluent Limitations

1) Scope and Authority

Section 301(b) of the Clean Water Act and implementing USEPA permit regulations at 40 C.F.R. section 122.44 require that permits include conditions meeting applicable technology-based requirements at a minimum, and any more stringent effluent limitations necessary to meet applicable water quality standards. The discharge authorized by this Order must meet minimum federal technology-based requirements based on Effluent Limitations Guidelines and Standards for the Steam Electric Power Generating Point Source Category in 40 C.F.R. part 423 and Best Professional Judgment (BPJ) in accordance with 40 C.F.R. section 125.3.

The Clean Water Act requires that technology-based effluent limitations be established based on several levels of controls:

- a. Best practicable treatment control technology (BPT) represents the average of the best existing performance by well-operated facilities within an industrial category or subcategory. BPT standards apply to toxic, conventional, and non-conventional pollutants.
- b. Best available technology economically achievable (BAT) represents the best existing performance of treatment technologies that are economically achievable within an industrial point source category. BAT standards apply to toxic and nonconventional pollutants.
- c. Best conventional pollutant control technology (BCT) represents the control from existing industrial point sources of conventional pollutants including BOD, TSS, fecal coliform, pH, and oil and grease. The BCT standard is established after considering a two-part reasonableness test. The first test compares the relationship between the costs of attaining a reduction in effluent discharge and the resulting benefits. The second test examines the cost and level of reduction of pollutants from the discharge from publicly owned treatment works to the cost and level of reduction of such pollutants from a class or category of industrial sources. Effluent limitations must be reasonable under both tests.

- d. New source performance standards (NSPS) represent the best available demonstrated control technology standards. The intent of NSPS guidelines is to set limitations that represent state-of-the-art treatment technology for new sources.

The Clean Water Act requires USEPA to develop effluent limitations, guidelines and standards (ELGs) representing application of BPT, BAT, BCT, and NSPS. Section 402(a)(1) of the Clean Water Act and 40 C.F.R. section 125.3 authorize the use of best professional judgment (BPJ) to derive technology-based effluent limitations on a case-by-case basis where ELGs are not available for certain industrial categories and/or pollutants of concern. Where BPJ is used, the Colorado River Basin Water Board must consider specific factors outlined in 40 C.F.R. section 125.3.

2) Applicable Technology-Based Effluent Limitations

This Order includes technology-based effluent limitations based on ELGs for the Steam Electric Power Generating Point Source Category at 40 C.F.R. part 423 (including BPT- and BAT-based effluent limitations) and BPJ in accordance with 40 C.F.R. section 125.3.

- a. **ELG-Based TBELs.** The ELGs for the Steam Electric Power Generating Point Source Category apply to “discharges resulting from the operation of a generating unit by an establishment whose generation of electricity is the predominant source of revenue or principal reason for operation, and whose generation of electricity results primarily from a process utilizing fossil-type fuel (coal, oil, or gas), fuel derived from fossil fuel (e.g., petroleum coke, synthesis gas)...” (40 C.F.R. § 423.10.) Here, the Facility uses oil and gas to generate electricity and falls within the scope of 40 C.F.R. part 423.

In 40 C.F.R. part 423, the USEPA has promulgated ELGs for BPT, BAT, and NSPS. The NSPS apply to new sources as of November 19, 1982, and therefore do not apply to the Facility’s discharge, since all units began operation between 1949 and 1968. The applicable effluent limitations based on BPT and BAT ELGs¹ for the Steam Electric Power Generating Point Source Category are summarized in Table F-6.

Table F-6. Summary of Applicable TBELs Based on ELGs

¹ Waste streams from the Facility do not include the following, as defined in 40 C.F.R. section 423.11: metal cleaning wastes (when boiler tube cleaning is conducted, it is never discharged to surface waters; waste is hauled off to an appropriate handling/disposal facility); gasification wastewater; fly ash or bottom ash transport water; flue gas mercury control wastewater; flue gas desulfurization wastewater; coal pile runoff; or combustion residual leachate. None of the units are oil-fired.

Parameter	Units	Effluent Limitation				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
pH ¹	s.u.	--	--	--	6.0	9.0
TSS ²	mg/L	30.0		100.0		
Oil & Grease (BPT) ²	mg/L	15.0		20.0		
Total Residual Chlorine (BAT) ³⁵	mg/L					0.2
Total Chromium (BAT) ⁴	mg/L	0.2		0.2		
Total Zinc (BAT) ⁴⁵	mg/L	1.0		1.0		

¹ Based on BPT in 40 C.F.R. § 423.12(b)(1).

² Based on BPT in 40 C.F.R. § 423.12(b)(3).

³ Based on BAT in 40 C.F.R. § 423.13(b)(1).

⁴ Based on BAT in 40 C.F.R. § 423.13(d)(1).

⁵ The water quality-based effluent limitation (WQBEL) is more stringent and therefore controls.

PCBs: There shall be no discharge of PCBs such as those commonly used for transformer fluid. (Based on BPT in 40 C.F.R. § 423.12(b)(2) and BAT in 40 C.F.R. § 423.13(a).)

Chlorine: Neither free available chlorine nor total residual chlorine may be discharged from any unit for more than two hours in any one day and not more than one unit in any plant may discharge free available or total residual chlorine at any one time unless the utility can demonstrate to the Regional Administrator or State, if the State has NPDES permit issuing authority, that the units in a particular location cannot operate at or below this level or chlorination. (Based on BPT in 40 C.F.R. § 423.12(b)(8) and BAT in 40 C.F.R. § 423.13(d)(2); however, the WQBEL for chlorine is more stringent and therefore controls.)

Total residual chlorine may not be discharged from any single generating unit for more than two hours per day unless the discharger demonstrates to the permitting authority that discharge for more than two hours is required for macroinvertebrate control. Simultaneous multi-unit chlorination is permitted. (Based on BAT in 40 C.F.R. § 423.13(b)(2); however, the WQBEL for chlorine is more stringent and therefore controls.)

- b. **BPJ-Based TBELs.** This Order carries forward a technology-based effluent limitation for flow from the prior permit. The ELGs in 40 C.F.R. part 423 do not include limitations on flow. The applicable effluent limitation based on BPJ is summarized in Table F-7.

Table F-7. Summary of TBELS Based on BPJ

Parameter	Units	Effluent Limitation				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Flow	MGD	0.995	--	--	--	--

¹ The design capacity of the treatment plant is 0.995 MGD.

C. Water Quality-Based Effluent Limitations (WQBELs)

1) Scope and Authority

Clean Water Act section 301(b) and 40 C.F.R. section 122.44(d) require that permits include limitations more stringent than applicable federal technology-based requirements where necessary to achieve applicable water quality standards.

Section 122.44(d)(1)(i) of 40 C.F.R. requires that permits include effluent limitations for all pollutants that are or may be discharged at levels that have the reasonable potential to cause or contribute to an exceedance of a water quality standard, including numeric and narrative objectives within a standard. Where reasonable potential has been established for a pollutant, but there is no numeric criterion or objective for the pollutant, water quality-based effluent limitations (WQBELs) must be established using: (1) USEPA criteria guidance under Clean Water Act section 304(a), supplemented where necessary by other relevant information; (2) an indicator parameter for the pollutant of concern; or (3) a calculated numeric water quality criterion, such as a proposed state criterion or policy interpreting the state's narrative criterion, supplemented with other relevant information, as provided in section 122.44(d)(1)(vi).

The process for determining reasonable potential and calculating WQBELs when necessary is intended to protect the designated uses of the receiving water as specified in the Basin Plan and achieve applicable water quality objectives and criteria that are contained in other state plans and policies, or any applicable water quality criteria contained in the CTR and NTR.

2) Applicable Beneficial Uses and Water Quality Criteria and Objectives

Beneficial uses described by the Basin Plan for Central Drain No. 5, which is tributary to the Alamo River and the Salton Sea, are presented in Section III.C.1 and Table F-5 of this Fact Sheet. Water quality criteria applicable to this receiving water are established by the CTR, the NTR, and the Basin Plan.

Table F-8 summarizes the applicable water quality criteria/objectives for priority pollutants reported in detectable concentrations in the effluent or receiving water, as well as those pollutants for which effluent limitations existed in Order R7-2014-0005. The hardness value used to conduct the Reasonable Potential Analysis (RPA) was 258 mg/L, which is the minimum hardness value of the receiving water upstream of Discharge Point 001 (RSW-001). These criteria were used in conducting the RPA for this Order.

Table F-8. Applicable Beneficial Uses and Water Quality Criteria and Objectives

CTR No.	Parameter	Most Stringent Criteria	CTR/NTR Water Quality Criteria				
			Freshwater		Saltwater		Human Health for Consumption of:
			Acute	Chronic	Acute	Chronic	Organisms Only
		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
1	Antimony	4,300	--	--	N/A		4,300
2	Arsenic	150	340	150			--
4	Cadmium	5.15	13.04	5.15			Narrative
6	Copper	20.83	33.94	20.83			--
7	Lead	10.53	270.16	10.53			Narrative
9	Nickel	115.54	1,039.21	115.54			4,600
10	Selenium	5.00	20.00	5.00			Narrative
12	Thallium	6.30	--	--			6.30
13	Zinc	265.72	265.72	265.72			--
14	Cyanide	5.20	22	5.20			220,000
26	Chloroform	--	--	--			--
68	Bis(2-Ethylhexyl) Phthalate	5.90	--	--			5.90
81	Di-n-Butyl Phthalate	12,000	--	--			12,000

"--" No water quality criteria available

"N/A" Not Applicable to the receiving water.

3) Determining the Need for WQBELs for Priority Pollutants

NPDES regulations at 40 C.F.R. 122.44(d) require effluent limitations to control all pollutants which are or may be discharged at a level which will cause, have the reasonable potential to cause, or contribute to an excursion above any state water quality standard.

The SIP, a statewide policy that became effective on May 22, 2000, establishes procedures to implement water quality criteria from the NTR and CTR and for priority, toxic pollutant objectives established in the Basin Plan. The implementation procedures of the SIP include methods to determine reasonable potential (for pollutants to cause or contribute to excursions above state water quality standards) and to establish numeric effluent limitations, if necessary, for those pollutants that show reasonable potential.

Section 1.3 of the SIP requires the Colorado River Basin Water Board to use all available, valid, relevant, and representative receiving water and effluent data and information to conduct a reasonable potential analysis. The reasonable potential analysis was performed based on available priority pollutant monitoring data collected by the Discharger from analyses of annual samples collected

during the period from September 2015 through October 2018 for priority pollutants, except that monthly data from January 2015 through January 2018 was used for cyanide.

Some freshwater water quality criteria for metals are hardness dependent; i.e., as hardness decreases, the toxicity of certain metals increases and the applicable water quality criteria become correspondingly more stringent. The hardness value used to conduct the reasonable potential analysis (RPA) was 258 mg/L as CaCO₃, which is the minimum hardness value of the receiving water upstream of Discharge Point 001 reported.

To conduct the reasonable potential analysis, the Colorado River Basin Water Board identified the maximum observed effluent (MEC) and background (B) concentrations for each priority pollutant from receiving water and effluent data provided by the Discharger and compared this data to the most stringent applicable water quality criterion (C) for each pollutant from the NTR, CTR, and Basin Plan. Section 1.3 of the SIP establishes three triggers for a finding of reasonable potential:

- a. Trigger 1 – If the MEC is greater than or equal to the CTR water quality criteria or applicable objective (C), a limit is needed.
- b. Trigger 2 – If background water quality (B) > C and the pollutant is detected in the effluent, a limit is needed.
- c. Trigger 3 – If other related information, such as a 303(d) listing for a pollutant, discharge type, compliance history, etc., indicates that a WQBEL is required.

Based on the RPA, the discharge demonstrates reasonable potential to cause or contribute to an excursion above the water quality standard for copper, lead, thallium, zinc, cyanide, selenium, and bis (2-ethylhexyl) phthalate. Data evaluated in the RPA for priority pollutants reported in detectable concentrations in the effluent is summarized in Table F-9.

Table F-9. Summary of Reasonable Potential Analysis for Priority Pollutants

CTR No.	Priority Pollutant	Applicable Water Quality Criteria (C)	Max. Effluent Concentration (MEC)	Max. Detected Receiving Water Concentration (B)	RPA Result – Effluent Limit Required?	Reason
		µg/L	µg/L	µg/L		
1	Antimony	4,300	8.30	5.70	No	MEC < C & B < C
2	Arsenic	150	24.20	18	No	MEC < C & B < C
4	Cadmium	5.15	2.20	1.36	No	MEC < C & B < C
6	Copper	20.83	790	58.20	Yes	MEC > C & B > C
7	Lead	10.53	14.20	39.30	Yes	MEC > C & B > C
9	Nickel	115.54	23.40	<0.62	No	MEC < C & B < C

CTR No.	Priority Pollutant	Applicable Water Quality Criteria (C)	Max. Effluent Concentration (MEC)	Max. Detected Receiving Water Concentration (B)	RPA Result – Effluent Limit Required?	Reason
		µg/L	µg/L	µg/L		
10	Selenium	5.00	48.90	<1.28	Yes	MEC > C & B > C
12	Thallium	6.30	8.40	2	Yes	MEC > C
13	Zinc	265.72	400	39	Yes	MEC > C
14	Cyanide	5.20	8	<0.1	Yes	MEC > C
26	Chloroform	--	2.90	0.6	No	No Criteria
68	Bis(2-Ethylhexyl)Phthalate	5.90	34.80	<0.73	Yes	MEC > C
81	Di n-Butyl Phthalate	12,000	<0.42	2.1	No	MEC < C & B < C

--" Data not available.

4) WQBEL Calculations for Priority Pollutants

Final WQBELs for priority pollutants are based on monitoring results and following the calculation process outlined in section 1.4 of the SIP. A table providing the calculations for all applicable WQBELs for this Order is provided in Attachment G of this Order.

a. WQBELs Calculation Example

Using copper as an example, the following demonstrates how WQBELs based on an aquatic life criterion were established for Order R7-2019-0006. The process for developing these limits is in accordance with section 1.4 of the SIP. Attachment G summarizes the development and calculation of all WQBELs for this Order using the process described below.

Step 1: For each constituent requiring an effluent limit, identify the applicable water quality criteria or objective. For each criterion determine the effluent concentration allowance (ECA) using the following steady state equation:

$$ECA = C + D(C-B) \quad \text{when } C > B, \text{ and}$$

$$ECA = C \quad \text{when } C \leq B,$$

Where C = The priority pollutant criterion/objective, adjusted if necessary for hardness, pH and translators. In this Order an upstream receiving water hardness value of 256 mg/L (as CaCO₃) was used for development of hardness-dependent criteria, and a pH of 6.41 was used for pH-dependent criteria.

D = dilution credit, and

B = ambient background concentration

For this Order, dilution was not allowed due to the nature of the receiving water and quantity of the effluent; therefore:

$$ECA = C$$

For cyanide, the applicable water quality criteria are:

$$ECA_{\text{acute}} = 22 \mu\text{g/L}$$

$$ECA_{\text{chronic}} = 5.2 \mu\text{g/L}$$

$$ECA_{\text{human health}} = 220,000 \mu\text{g/L}$$

Step 2: For each ECA based on aquatic life criterion/objective, determine the long-term average discharge condition (LTA) by multiplying the ECA by a factor (multiplier). The multiplier is a statistically based factor that adjusts the ECA to account for effluent variability. The value of the multiplier varies depending on the coefficient of variation (CV) of the data set and whether it is an acute or chronic criterion/objective. Table 1 of the SIP provides pre-calculated values for the multipliers based on the value of the CV. Equations to develop the multipliers in place of using values in the tables are provided in section 1.4, Step 3 of the SIP and will not be repeated here.

$$LTA_{\text{acute}} = ECA_{\text{acute}} \times \text{Multiplier}_{\text{acute}}$$

$$LTA_{\text{chronic}} = ECA_{\text{chronic}} \times \text{Multiplier}_{\text{chronic}}$$

The CV for the data set must be determined before the multipliers can be selected and will vary depending on the number of samples and the standard deviation of a data set. If the data set is less than 10 samples, or at least 80% of the samples in the data set are reported as non-detect, the CV shall be set equal to 0.6.

For cyanide, the following data was used to develop the acute and chronic LTA using Table 1 of the SIP:

No. of Samples Available	CV	Multiplier _{acute}	Multiplier _{chronic}
15	0.6	0.32	0.53

$$LTA_{\text{acute}} = 22 \mu\text{g/L} \times 0.32 = 7.06 \mu\text{g/L}$$

$$LTA_{\text{chronic}} = 5.2 \mu\text{g/L} \times 0.53 = 2.74 \mu\text{g/L}$$

Step 3: Select the most limiting (lowest) of the LTA.

LTA = most limiting of LTA_{acute} or LTA_{chronic}

For cyanide, the most limiting LTA was the LTA_{acute}

$$LTA = 2.74 \mu\text{g/L}$$

Step 4: Calculate the WQBELs by multiplying the LTA by a factor (multiplier). WQBELs are expressed as Average Monthly Effluent Limitations (AMEL) and Maximum Daily Effluent Limitations (MDEL). The multiplier is a statistically based factor that adjusts the LTA for the averaging periods and exceedance frequencies of the criteria/objectives and the effluent limitations. The value of the multiplier varies depending on the probability basis, the coefficient of variation (CV) of the data set, the number of samples (for AMEL) and whether it is monthly or daily limit. Table 2 of the SIP provides pre-calculated values for the multipliers based on the value of the CV and the number of samples. Equations to develop

the multipliers in place of using values in the tables are provided in section 1.4, Step 5 of the SIP and will not be repeated here.

$$AMEL_{\text{aquatic life}} = LTA \times AMEL_{\text{multiplier}}$$

$$MDEL_{\text{aquatic life}} = LTA \times MDEL_{\text{multiplier}}$$

AMEL multipliers are based on a 95th percentile occurrence probability, and the MDEL multipliers are based on the 99th percentile occurrence probability. If the number of samples is less than four (4), the default number of samples to be used is four (4).

For cyanide, the following data was used to develop the AMEL and MDEL for aquatic life using Table 2 of the SIP:

No. of Samples per Month	CV	Multiplier _{MDEL}	Multiplier _{AMEL}	Ratio
4	0.6	3.11	1.55	2.01

$$AMEL_{\text{aquatic life}} = 2.74 \times 1.55 = 4.26 \mu\text{g/L}$$

$$MDEL_{\text{aquatic life}} = 2.74 \times 3.11 = 8.54 \mu\text{g/L}$$

Step 5: For the ECA based on human health, set the AMEL equal to the ECA_{human health}

For cyanide:

$$AMEL_{\text{human health}} = 220,000 \mu\text{g/L}$$

Step 6: Calculate the MDEL for human health by multiplying the AMEL by the ratio of the Multiplier_{MDEL} to the Multiplier_{AMEL}. Table 2 of the SIP provides pre-calculated ratios to be used in this calculation based on the CV and the number of samples.

$$MDEL_{\text{human health}} = AMEL_{\text{human health}} \times (\text{Multiplier}_{\text{MDEL}} / \text{Multiplier}_{\text{AMEL}})$$

For cyanide, the following data were used to develop the MDEL_{human health}:

No. of Samples per Month	CV	Multiplier _{MDEL}	Multiplier _{AMEL}	Ratio
4	0.6	3.11	1.55	2.01

$$MDEL_{\text{human health}} = 220,000 \mu\text{g/L} \times 2.01 = 441,362 \mu\text{g/L}$$

Step 7: Select the lower of the AMEL and MDEL based on aquatic life and human health as the water-quality based effluent limit for the Order.

AMEL _{aquatic life}	MDEL _{aquatic life}	AMEL _{human health}	MDEL _{human health}	
4.3 $\mu\text{g/L}$	8.5 $\mu\text{g/L}$	220,000 $\mu\text{g/L}$	441,362 $\mu\text{g/L}$	

The lowest (most restrictive) effluent limits for cyanide are based on aquatic life and were incorporated into this Order.

5) WQBELs for Non-Priority Pollutants

Pursuant to 40 C.F.R. section 122.44(d), the Colorado River Basin Water Board must establish effluent limitations to control non-priority pollutants that have the reasonable potential to cause or contribute to an excursion above any state water quality standard.

a. Chlorine

Chapter 3 of the Basin Plan contains a narrative water quality objective for surface water that states, “No individual chemical or combination of chemicals shall be present in concentrations that adversely affect beneficial uses.” This narrative objective applies to the chemical chlorine.

Because the wastewater treatment process involves chlorination, the discharge demonstrates a reasonable potential to cause or contribute to an excursion in the receiving water above the water quality objective. As described above, chlorination is used as an oxidizing biocide. Chlorine treatment occurs in four-hour cycles approximately once every twelve hours.

This Order carries forward the effluent limitations from the previous Order based on USEPA’s National Ambient Water Quality Criteria for the Protection of Freshwater Aquatic Life (NAWQC) recommend 4-day average (chronic) and 1-hour average (acute) criteria for chlorine of 0.011 mg/L and 0.019 mg/L, respectively. The Colorado River Basin Water Board calculates effluent limitations for CTR and non-CTR parameters using the procedures outlined in the SIP and the USEPA Technical Support Document for Water Quality-based Toxics Control (EPA/505/2-90-001), which contain statistical methods for converting chronic (4-day) and acute (1-hour) aquatic life criteria to average monthly and instantaneous maximum daily effluent limitations based on the variability of the existing data and the expected frequency of monitoring.

The effluent limitations for total chlorine residual are based on the Basin Plan’s narrative toxicity objective and USEPA’s NAWQC with modification (rounded significant figures of two) of 0.01 mg/L as the average monthly maximum and 0.02 mg/L as the instantaneous maximum. Because this WQBEL is more stringent than the applicable TBELs for chlorine in 40 C.F.R. part 423, the WQBEL controls.

b. Total Suspended Solids

Excess delivery of sediment to the Imperial Valley Drains (including Central Drain No. 5) and their tributary the Alamo River has resulted in degraded conditions that have impaired several beneficial uses of these waterbodies. Because these waterbodies are listed as impaired for sediment on the 303(d) List, the discharge demonstrates a reasonable potential to cause or contribute to an excursion in the receiving water above the water quality objective for TSS/sediment.

A sedimentation/siltation Total Maximum Daily Load (TMDL) for the Imperial Valley Drains was approved by USEPA on September 30, 2005. However, the TMDL allocations only apply to specific Imperial Valley Drains and do not include Central Drain No. 5.

A sedimentation/siltation Total Maximum Daily Load (TMDL) for the Alamo River was approved by USEPA on June 28, 2002. The sedimentation/siltation TMDL establishes a Waste Load Allocation (WLA) for the El Centro Steam Plant (aka the Facility) for sediment of the TSS loading rate (95.0 tons per year). This loading rate is less stringent than the TBELs for TSS in 40 C.F.R. part 423.12(b)(3), which specify 30 mg/L as a monthly average and 100 mg/L as a daily maximum for TSS in the

discharge. If the Discharger were to discharge at its maximum design flow rate of 0.995 MGD every day for a year as a concentration equal to the monthly average limit, the Facility would not exceed the WLA of 95.0 tons per year of sediment.

Calculation of Average Monthly Effluent Limitation (mass-based):

$$30\text{mg/L} * 0.995 \text{ MGD} * 8.34 = 249\text{lbs/day}$$

Calculation of TSS loading rate:

$$249\text{lbs/day} * 1\text{ton}/2000\text{lbs} * 365\text{days}/1\text{year} = 45 \text{ tons/year}$$

Therefore, the technology-based TSS effluent limitations contained in this Order comply with the WLA for sediment established in the Alamo River sedimentation/siltation TMDL.

c. Whole Effluent Toxicity (WET)

The Basin Plan specifies a narrative objective for toxicity, requiring that all waters be maintained free of toxic substances in concentrations that are lethal to aquatic organisms or that produce other detrimental response(s) in aquatic organisms. A detrimental response includes, but is not limited to, decreased growth rate, decreased reproductive success of resident or indicator species, and/or significant alterations in population, community ecology, or receiving water biota.

The SIP requires the use of short-term chronic toxicity tests to determine compliance with the narrative toxicity objectives for aquatic life in the Basin Plan. The SIP requires that the Discharger demonstrate the presence or absence of chronic toxicity using tests on the fathead minnow, *Pimephales promelas*, the water flea, *Ceriodaphnia dubia*, and the freshwater alga, *Selenastrum capricornutum* (also named *Raphidocelis subcapitata*). The MRP (Attachment E of this Order) requires annual chronic WET monitoring to demonstrate compliance with the narrative toxicity objective.

The previous Order contained narrative toxicity language and established accelerated monitoring triggers for whole effluent toxicity, as well as routine monitoring requirements. During the past permit term, the Discharger did not exceed any toxicity triggers during annual chronic toxicity testing. The Discharger will continue to conduct annual chronic WET monitoring once per year to demonstrate compliance with the narrative toxicity objective, as provided in the MRP. In addition, this Order establishes thresholds that, when exceeded, require the Discharger to conduct accelerated toxicity testing and/or conduct Toxicity Reduction Evaluation (TRE) studies.

Numeric chronic toxicity effluent limitations have not been included in the Order for consistency with the SIP, which implements narrative toxicity objectives in basin plans and specifies use of a numeric trigger for accelerated monitoring and implementation of a Toxicity Reduction Evaluation (TRE) study in the event that persistent toxicity is detected.

6) Summary of Water Quality-based Effluent Limitations

Table F-10. Summary of Water Quality-based Effluent Limitations

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Total Suspended Solids	mg/L	30	--		--	--
Total Residual Chlorine	mg/L	0.01	--	--	--	0.02
	lbs/day ¹	0.083	--	--	--	--
Copper, Total Recoverable	µg/L	12	--	34	--	--
	lbs/day ¹	0.10	--	0.28	--	--
Lead, Total Recoverable	µg/L	8.6	--	17	--	--
	lbs/day ¹	0.07	--	0.14	--	--
Selenium, Total Recoverable	µg/L	2.6	--	8.3	--	--
	lbs/day ¹	0.02	--	0.07	--	--
Thallium, Total Recoverable	µg/L	6.3	--	13	--	--
	lbs/day ¹	0.05	--	0.11	--	--
Zinc, Total Recoverable	µg/L	100	--	266	--	--
	lbs/day ¹	0.84	--	2.20	--	--
Cyanide (Free)	µg/L	4.3	--	8.5	--	--
	lbs/day ¹	0.036	--	0.071	--	--
Bis(2-Ethylhexyl) Phthalate	µg/L	5.9	--	18	--	--
	lbs/day ¹	0.049	--	0.15	--	--

The mass-based effluent limitations are based on a design capacity of 0.995 MGD.

- a. **Toxicity:** There shall be no toxicity in the treatment plant effluent. Compliance with this objective will be determined by use of indicator organisms, analyses of species diversity, population density, growth anomalies, or toxicity tests of appropriate duration or other appropriate methods specified by the Colorado River Basin Water Board in the MRP.
- b. **PCBs:** There shall be no discharge of polychlorinated biphenyl compounds such as those commonly used for transformer liquid.

D. Final Effluent Limitation Considerations

1) Anti-Backsliding Requirements

The Clean Water Act specifies that a revised permit may not include effluent limitations that are less stringent than the previous permit unless a less stringent limitation is justified based on exceptions to the anti-backsliding provisions contained in Clean Water Act sections 402(o) or 303(d)(4), or, where applicable, 40 C.F.R. section 122.44(i).

The effluent limitations in this Order are at least as stringent as the effluent limitations in the previous Order, except for the limitations for cyanide and bis(2-ethylhexyl)phthalate. The effluent limitations for these pollutants were adjusted based on the consideration of new information pursuant to Clean Water Act section 402(o)(2)(B)(ii); specifically, the less stringent limits are based on an RPA that uses more current discharge monitoring data. This relaxation of effluent limitations is consistent with the anti-backsliding requirements of the Clean Water Act and federal regulations.

The narrative TDS effluent limitation in the previous Order was couched as a receiving water limitation and compliance was measured as the discharge not causing the concentration of TDS in the receiving water to exceed an annual average concentration of 4,000 mg/l or a maximum daily concentration of 4,500 mg/l. This Order retains the very same receiving water requirements in Section V.A.13. Namely, this Order still requires, as before, that the discharge shall not cause the concentration of TDS in Central Drain No. 5, tributary to the Alamo River, to exceed an annual average concentration of 4,000 mg/l or a maximum daily concentration of 4,500 mg/l. As such, the anti-backsliding requirements do not apply to the removal of the narrative TDS effluent limitation, because the removal of the TDS narrative effluent limit has not resulted in any less stringent requirements in the permit.

2) Antidegradation Policies

The permitted surface water discharge is consistent with the antidegradation provisions of 40 C.F.R. section 131.12 and State Water Board Resolution No. 68-16.

The source water for the Facility and the entire Imperial Valley is the Colorado River. Average annual precipitation in the Imperial Valley is insignificant (approximately 2 inches/year). Central Drain No. 5 is an effluent-dominated surface water that also carries discharges from wastewater treatment plants, and agricultural return flows from approximately 30 Imperial Valley drains that discharge tilewater and tailwater from farmland. Central Drain No. 5 discharges to the Alamo River, which in turn discharges to the Salton Sea. Tailwater is irrigation water that does not percolate into the soil and exits the lower end of the field into a drain. Tailwater tends to erode fields and thus acquire silt and sediments as it crosses and exits a field. Tilewater is water that has percolated through the soil, but is not absorbed by crops. Tilewater flushes salts from the soil. This highly saline water accumulates in tile lines beneath the fields, wherein it is transported to drains by gravity flow or a sump system.

Consequently, “background” water quality in Central Drain No. 5 is difficult to establish for the purpose of conducting a typical antidegradation analysis. It is likely that the Alamo River has historically contained “background” water from farmland that contains pollutants at concentrations that violate certain Basin Plan water quality objectives for those pollutants, in particular, pesticides, silt/sediment, and selenium. It also contains nutrients (e.g., phosphorus) at concentrations that

contribute to the nutrient impairment of the Salton Sea. The agricultural return flows, however, are essentially free of BOD5 and fecal coliform bacteria and have pH well within the receiving water quality objective of 6.0 to 9.0 pH units.

The discharge from the Facility contains several conventional pollutants (TSS, oil and grease, and pH) that are controlled through best practicable control technology currently available (BPT) and best available technology economically achievable (BAT) to prevent exceedances of the receiving water quality objectives for those pollutants and prevent adverse impacts on the beneficial uses of Central Drain No. 5.

Additionally, the discharge of TSS complies with TMDL requirements and the ELGs promulgated by USEPA. The discharge also contains TDS, but at concentrations significantly below the 4,000 mg/L TDS water quality objective for the receiving water. Chlorine must essentially be removed from the effluent prior to discharge, and therefore any degradation will not be significant as controlled herein and will not result in water quality less than prescribed in the Basin Plan. Several priority pollutants such as copper, lead, thallium, zinc, cyanide, selenium, and bis (2-ethylhexyl) phthalate were reported in detectable concentrations in the effluent; however, this Order establishes WQBELs for these pollutants based on the water quality criteria established in the CTR and through an RPA.

The addition of several pollutants from the discharge are likely to lower water quality in the receiving water (i.e., cause some degradation). However, the Colorado River Basin Water Board has determined that some degradation of receiving water from the Facility discharge is consistent with the federal and state antidegradation policies, because any limited degradation: (a) is confined to a reasonable area; (b) is minimized by means of full implementation, regular maintenance, and optimal operation of best practicable treatment and control measures by the Discharger; (c) is primarily limited to waste constituents typically encountered in similar industrial cooling wastewater; (d) does not unreasonably effect any present or anticipated beneficial uses of surface water prescribed in the Basin Plan, and will not result in the violation of any water quality objective; and (e) is consistent with the maximum benefit to the people of the state.

Degradation of surface water by some of the typical waste constituents associated with industrial cooling wastewater is consistent with the maximum benefit to the people of the state. The discharge is necessary to accommodate essential public services for several areal cities and communities by providing electricity to local businesses and residents, which is an important benefit to the state. The Discharger also supports the economic prosperity of the community by the employment of full-time and part-time personnel at plant.

3) Stringency of Requirements for Individual Pollutants

This Order contains both technology-based and water quality-based effluent limitations for individual pollutants. The technology-based effluent limitations consist of restrictions on pH, PCBs, TSS, oil and grease, and total chromium specified in federal regulations in 40 C.F.R. part 423 and

on flow through BPJ under 40 C.F.R. section 125.3. The permit's technology-based pollutant restrictions are no more stringent than those typically required by the Clean Water Act. This Order's technology-based pollutant restrictions implement the minimum, applicable federal technology-based requirements.

Water quality-based effluent limitations have been scientifically derived to implement water quality objectives that protect beneficial uses. Both the beneficial uses and the water quality objectives have been approved pursuant to federal law and are the applicable federal water quality standards. To the extent that toxic pollutant water quality-based effluent limitations were derived from the CTR, the CTR is the applicable standard pursuant to 40 C.F.R. section 131.38. The scientific procedures for calculating the individual WQBELs are based on the CTR-SIP, which was approved by the USEPA on May 18, 2000. All beneficial uses and water quality objectives contained in the Basin Plan were approved under state law and submitted to and approved by USEPA prior to May 30, 2000. Any water quality objectives and beneficial uses submitted to USEPA prior to May 30, 2000, but not approved by USEPA before that date, are nonetheless "applicable water quality standards for purposes of the Clean Water Act" pursuant to 40 C.F.R. section 131.21(c)(1). Collectively, this Order's restrictions on individual pollutants are no more stringent than required to implement the requirements of the Clean Water Act.

The Colorado River Basin Water Board has considered the factors in Water Code section 13263, including the provisions of Water Code section 13241, in establishing these requirements.

E. Interim Effluent Limitations – Not Applicable

F. Final Effluent Limitations

Table F-11 below summarizes the proposed effluent limitations for the discharge from the treatment system through Discharge Point 001. Proposed effluent limitations are based on ELGs contained at 40 C.F.R. part 423, BPJ through 40 C.F.R. section 125.3, California Toxics Rule, and Colorado River Basin Plan water quality standards.

The previous Order (R7-2014-0005) established effluent limitations for the discharge from the Facility for pH and PCBs based on ELGs and for flow based on BPJ. The effluent limitations for pH, PCBs, and flow have been carried over to the proposed Order. The previous Order also contained water quality-based effluent limitations for chlorine, TSS, copper, selenium, zinc, cyanide, bis (2-ethyhexyl) phthalate, and toxicity. Effluent limitations for all of these constituents are retained in this Order, with some modifications.

This Order revises effluent limitations for copper, selenium, zinc, cyanide, and bis (2-ethyhexyl) phthalate based on the results of the RPA. Further, new effluent limitations for lead and thallium are established based on the results of the RPA in accordance with requirements of the CTR and SIP. This Order also adds/revises effluent limitations for TSS, oil and grease, and chromium based on new amendments to the ELGs in 40 C.F.R. part 423.

1) Mass-based Effluent Limitations

40 C.F.R. section 122.45(f)(1) requires effluent limitations be expressed in terms of mass, with some exceptions, and section 122.45(f)(2) allows pollutants that are limited in terms of mass to additionally be limited in terms of other units of measurement. This Order includes effluent limitations expressed in terms of mass and concentration. In addition, pursuant to the exceptions to mass limitations provided in section 122.45(f)(1), some effluent limitations are not expressed in terms of mass, such as pH and temperature, and when the applicable standards are expressed in terms of concentration (e.g., CTR criteria and MCLs) and mass limitations are not necessary to protect the beneficial uses of the receiving water.

Mass-based effluent limitations are established using the following formula:

Mass (lbs/day) = flow rate (MGD) x 8.34 x effluent limitation (mg/L)

Where: Mass = mass limitation for a pollutant (lbs/day)

Effluent limitation = concentration limit for a pollutant (mg/L)

Flow rate = discharge flow rate (MGD)

2) Final Effluent Limitations

The Discharger shall maintain compliance with the following effluent limitations at Discharge Point 001, with compliance measured at Monitoring Location EFF-001 as described in the MRP.

Table F-11. Summary of Final Effluent Limitations

Parameter	Units	Effluent Limitations					Basis
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum	
Flow	MGD	0.995	--	--	--	--	BPJ ³
pH ¹	Standard Units	--	--	--	6.0	9.0	ELG ¹
Total Suspended Solids	mg/L	30	--	100	--	--	ELG, ¹ TMDL, Basin Plan
Oil and Grease	mg/L	15		20			ELG ¹
	lbs/day	124.5		166			
Total Chromium	mg/L	0.2		0.2			ELG ¹
	lbs/day	1.66		1.66			
Total Residual Chlorine	mg/L	0.01	--	--	--	0.02	Basin Plan
	lbs/day ²	0.083	--	--	--	--	
Copper, Total Recoverable	µg/L	12.08	--	34	--	--	CTR, SIP
	lbs/day ²	0.10	--	0.28	--	--	
Lead, Total Recoverable	µg/L	8.6	--	17	--	--	CTR, SIP
	lbs/day ²	0.07	--	0.14	--	--	

Parameter	Units	Effluent Limitations					Basis
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum	
Selenium, Total Recoverable	µg/L	2.6	--	8.3			CTR, SIP
	lbs/day ²	0.03	--	0.07			
Thallium, Total Recoverable	µg/L	6.3	--	13	--	--	CTR, SIP
	lbs/day ²	0.05	--	0.11	--	--	
Zinc, Total Recoverable	µg/L	100	--	266	--	--	CTR, SIP
	lbs/day ²	0.84	--	2.2	--	--	
Cyanide (Free)	µg/L	4.3	--	8.5	--	--	CTR, SIP
	lbs/day ²	0.036	--	0.071	--	--	
Bis(2-Ethylhexyl) Phthalate	µg/L	5.9	--	18	--	--	CTR, SIP
	lbs/day ²	0.049	--	0.15	--	--	

ELG = Effluent Limit Guidelines for the Steam Electric Power Generating Point Source Category at 40 C.F.R. part 423.

The mass-based effluent limitations are based on a design capacity of 0.995 MGD.

BPJ = Best Professional Judgement used for establishing effluent limitations on a case-by-case basis under Clean Water Act section 402(a)(1)(B).

- a. **PCBs:** There shall be no discharge of polychlorinated biphenyl compounds such as those commonly used for transformer liquid.
- b. **Toxicity:** There shall be no toxicity in the treatment plant effluent. Compliance with this objective will be determined by use of indicator organisms, analyses of species diversity, population density, growth anomalies, or toxicity tests of appropriate duration or other appropriate methods specified by the Colorado River Basin Water Board in the MRP, Attachment E.

G. Land Discharge Specifications – Not Applicable

H. Recycling Specifications – Not Applicable

IV. Rationale for Receiving Water Limitations

A. Surface Water

Clean Water Act section 303, subdivisions (a) through (c), require states to adopt water quality standards, including water quality criteria where necessary to protect beneficial uses. The Colorado River Basin Water Board adopted water quality criteria as water quality objectives in the Basin Plan. The Basin Plan includes numeric and narrative water quality objectives for various beneficial uses and water bodies. This Order contains receiving surface water limitations based on the Basin Plan numerical and narrative water quality objectives for biostimulatory substances, color, chemical constituents, dissolved oxygen, oil, grease and floating material, pH, pesticides, settleable substances, tastes and odors, temperature, toxicity, and turbidity.

B. Groundwater – Not Applicable

V. Rationale for Provisions

A. Standard Provisions

The Standard Provisions, which apply to all NPDES permits in accordance with 40 C.F.R. section 122.41, and additional conditions applicable to specified categories of permits in accordance with 40 C.F.R. section 122.42, are provided in Attachment D. The Discharger must comply with all standard provisions and with those additional conditions that are applicable under 40 C.F.R. section 122.42.

Sections 122.41(a)(1) and (b) through (n) of 40 C.F.R. establish conditions that apply to all state-issued NPDES permits. These conditions must be incorporated into the permits either expressly or by reference. If incorporated by reference, a specific citation to the regulations must be included in the Order. 40 C.F.R. section 123.25(a)(12) allows the state to omit or modify conditions to impose more stringent requirements. In accordance with 40 C.F.R. section 123.25, this Order omits federal conditions that address enforcement authority specified in 40 C.F.R. sections 122.41(j)(5) and (k)(2), because the enforcement authority under the Water Code is more stringent. In lieu of these conditions, this Order incorporates by reference Water Code sections 13268, 13385, 13386, and 13387.

B. Special Provisions

1) Reopener Provisions

This section is based on 40 C.F.R. parts 122 through 124. The Colorado River Basin Water Board may reopen the permit to modify permit conditions and requirements. Causes for modification include, but are not limited to, the promulgation of new regulations, modification in the Discharger's disposal practices, or the adoption of new regulations by the State Water Board or Colorado River Basin Water Board, including revisions to the Basin Plan.

2) Special Studies and Additional Monitoring Requirements

- a. TRE Work Plan.** This provision is based on the SIP, section 4, Toxicity Control Provisions.
- b. Optional Translator Study.** This provision is based on the SIP and allows the Discharger to conduct an optional translator study, based on the SIP and at the Discharger's discretion. This provision is based on the need to gather site-specific information in order to apply a different translator from the default translator specified in the CTR and SIP. Without site-specific data, the default translators are used with the CTR criteria.
- c. Total Dissolved Solids Study.** The purpose of this study was to provide more detailed information on the Colorado River Basin Water Board's development of salinity standards pursuant to section 303 of the Clean Water Act and through the NPDES permitting authority in the regulation of municipal and industrial sources (see section 402 of the federal Water

Pollution Control Act). The Discharger has satisfied the requirements for this provision.

3) Best Management Practices and Pollution Prevention

- a. **Pollutant Minimization Program.** This provision is based on the requirements of section 2.4.5 of the SIP.
- b. **Spill Response Plan.** This provision is based on the requirements of 40 C.F.R. section 122.41(e) and the previous Order.
- c. **Stormwater.** This provision is based on State Water Board Order 2014-0057-DWQ, NPDES Permit No. CAS000001, General Permit for Storm Water Discharges Associated with Industrial Activities.

4) Construction, Operation, and Maintenance Specifications

- a. **Treatment Basins.** These provisions are included to ensure compliance with requirements established in this Order R7-2019-0006, and are based on the Clean Water Act, USEPA regulations, the Water Code, and Colorado River Basin Water Board plans and policies.
- b. **Facility and Treatment Operation.** This provision is based on the requirements of 40 C.F.R. section 122.41(e) and the previous Order.

5) Special Provisions for Municipal Facilities (POTWs Only) – Not Applicable

6) Other Special Provisions

Special Provisions VI.C.6.a and VI.C.6.b are included to ensure compliance with requirements established in this Order R7-2019-0006, and are based on the previous Order, the Clean Water Act, USEPA regulations, the California Water Code, and Colorado River Basin Water Board plans and policies.

7) Special Provisions Reporting Schedules

The reporting schedules specify the deliverables and due dates for the Spill Response Plan, TRE Workplan, and PMP.

VI. Rationale for Monitoring and Reporting Requirements

Clean Water Act section 308 and 40 C.F.R. sections 122.41(h), (j)-(l), 122.44(i), and 122.48 require that all NPDES permits specify monitoring and reporting requirements. Water Code sections 13267 and 13383 also authorize the Colorado River Basin Water Board to establish monitoring, inspection, entry, reporting, and recordkeeping requirements. The Monitoring and Reporting Program (MRP), Attachment E of this Order establishes monitoring, reporting, and recordkeeping requirements that implement federal and state requirements. The following provides the rationale for the monitoring and reporting requirements contained in the MRP for this Facility.

A. Effluent Monitoring

The Discharger is required to conduct monitoring of the permitted discharges in order to evaluate compliance with permit conditions. Monitoring requirements are given in the proposed MRP. This provision requires compliance with the MRP, and is based on 40 C.F.R. sections 122.44(i), 122.62, 122.63 and 124.5. The

MRP is a standard requirement in almost all NPDES permits (including the proposed Order) issued by the Colorado River Basin Water Board. In addition to containing definitions of terms, it specifies general sampling/analytical protocols and the requirements of reporting of spills, violations, and routine monitoring data in accordance with NPDES regulations, the Water Code, and the Colorado River Basin Water Board's policies. The MRP also contains sampling programs specific to the Discharger's wastewater treatment facility. It defines the sampling stations and frequency, pollutants to be monitored, and additional reporting requirements. Pollutants to be monitored include all pollutants for which effluent limitations are specified. Further, in accordance with section 1.3 of the SIP, periodic monitoring is required for all priority pollutants defined by the CTR, for which the criteria apply and for which no effluent limitations have been established, to evaluate reasonable potential to cause or contribute to an excursion above a water quality standard.

Monitoring for those pollutants expected to be present in the discharge from the Facility at Discharge Point 001 (Monitoring Location EFF-001A or EFF-001B) will be required as shown in the proposed MRP and as required by the SIP.

Effluent monitoring requirements are unchanged from the previous Order with the exception of the establishment of new monthly monitoring for flow, temperature, pH, and total chlorine residual is continued as well as monitoring twice per month for TSS and total dissolved solids. Monthly monitoring is continued for copper, cyanide, and selenium, zinc, bis(2-ethylhexyl) phthalate, and hardness. Monthly monitoring for oil and grease, chromium, lead and thallium has been established due to newly established effluent limitations, based on the results of the RPA. Semiannual monitoring for nitrite, nitrate, ammonia nitrogen (as N), total Kjeldahl nitrogen (TKN as N), orthophosphate, total phosphorus, and sulfates is continued. Annual monitoring for priority pollutants is continued in this Order. This monitoring is necessary to verify compliance with effluent limitations for this parameter which have been newly established in this Order.

B. Whole Effluent Toxicity Testing Requirements

Whole effluent toxicity (WET) testing requirements establish monitoring of the effluent to ensure that the receiving water quality is protected from the aggregate toxic effect of a mixture of pollutants in the effluent. An acute toxicity test is conducted over a short time period and measures mortality. A chronic toxicity test is conducted over a longer period of time and may measure mortality, reproduction, and growth. This permit requires chronic toxicity testing.

This requirement establishes conditions and protocols by which compliance with the Basin Plan narrative water quality objective for toxicity will be demonstrated. Conditions include required monitoring and evaluation of the effluent for chronic toxicity and provide monitoring triggers that, when exceeded, require the Discharger to initiate accelerated testing, TRE, and TIE procedures. The WET testing requirements in this Order include a screening phase and a monitoring phase of species testing. Screening is required during the first and fourth years of the permit term, to determine the most sensitive species that the Discharger will continue to use during the monitoring phase. This Order also includes

implementation procedures for toxicity caused by ammonia, ionic imbalance, and elevated TDS concentrations.

The WET testing requirements contained in the MRP, Section V were developed based on the Draft National Whole Effluent Toxicity (WET) Implementation Guidance Under the NPDES Program (EPA 832-B-04-003), the National Pollutant Discharge Elimination System Test of Significant Toxicity Implementation Document (EPA 833-R-10-003), and Technical Support Document for Water Quality-based Toxics Control (EPA 833-5-91-100). This is the most current guidance available to the Colorado River Basin Water Board.

USEPA has developed a statistical approach that assesses the WET measurement of wastewater effects on specific test organisms' ability to survive, grow, and reproduce. The approach is called the Test of Significant Toxicity (TST) and is a statistical method that uses hypothesis testing techniques based on research and peer-reviewed publications. The TST approach examines whether an effluent at the critical concentration (e.g., in-stream waste concentration or IWC, as recommended in USEPA's Technical Support Document [EPA 833-5-91-100] and implemented under USEPA's WET NPDES permits program) and the control within a WET test differ by an unacceptable amount; i.e., the amount that would have a measured detrimental effect on the ability of aquatic organisms to thrive and survive. This Order requires the Discharger to utilize the TST approach in conducting WET testing.

C. Receiving Water Monitoring

1) Surface Water

Surface water monitoring is required to determine compliance with receiving water limitations and to characterize the water quality of the receiving water pursuant to the Basin Plan. Monitoring requirements for the receiving water are unchanged from the previous Order. Additionally, annual monitoring for priority pollutants in the upstream receiving water has been continued, as required in accordance with the SIP.

2) Groundwater – Not Applicable

D. Other Monitoring Requirements

1) Discharge Monitoring Report-Quality Assurance (DMR-QA) Study Program

Under the authority of section 308 of the Clean Water Act (33 U.S.C. § 1318), USEPA requires major and selected minor dischargers under the NPDES Program to participate in the annual DMR-QA Study Program. The DMR-QA Study evaluates the analytical ability of laboratories that routinely perform or support self-monitoring analyses required by NPDES permits. There are two options to satisfy the requirements of the DMR-QA Study Program: (1) The Discharger can obtain and analyze a DMR-QA sample as part of the DMR-QA Study; or (2) Per the waiver issued by USEPA to the State Water Board, the Discharger can submit the results of the most recent Water Pollution Performance Evaluation Study from its own laboratories or its contract laboratories. A Water Pollution Performance Evaluation Study is similar to the DMR-QA Study. Thus, it also evaluates a laboratory's ability to analyze wastewater samples to produce quality data that ensure the integrity of the

NPDES Program. The Discharger shall ensure that the results of the DMR-QA Study or the results of the most recent Water Pollution Performance Evaluation Study are submitted annually to the State Water Board. The State Water Board's Quality Assurance Program Officer will send the DMR-QA Study results or the results of the most recent Water Pollution Performance Evaluation Study to USEPA's DMR-QA Coordinator and Quality Assurance Manager.

VII. Public Participation

The Colorado River Basin Water Board has considered the issuance of WDRs that will serve as an NPDES permit for the Discharger. As a step in the WDRs adoption process, the Colorado River Basin Water Board staff has developed tentative WDRs and has encouraged public participation in the WDRs adoption process.

A. Notification of Interested Persons

The Colorado River Basin Water Board notified the Discharger and interested agencies and persons of its intent to prescribe WDRs for the discharge and provided an opportunity to submit written comments and recommendations. Notification was provided through the Imperial Valley Press newspaper.

The public had access to the agenda and any changes in dates and locations through the Colorado River Basin Water Board's website at:

http://www.waterboards.ca.gov/coloradriver/board_info/agenda/

B. Written Comments

Interested persons were invited to submit written comments concerning tentative WDRs as provided through the notification process. Comments were due either in person or by mail to the Executive Office at the Colorado River Basin Water Board at 73-720 Fred Waring Drive, Suite 100, Palm Desert, CA 92260.

To be fully responded to by staff and considered by the Colorado River Basin Water Board, the written comments were due at the Colorado River Basin Water Board office by 5:00 p.m. on September 3, 2019.

C. Public Hearing

The Colorado River Basin Water Board held a public hearing on the tentative WDRs during its regular Board meeting on the following date and time and at the following location:

Date: September 19, 2019
Time: 1:00 PM
Location: California Regional Water Quality Control Board
Colorado River Basin Region Board Room
73-720 Fred Waring Drive, Suite 100
Palm Desert, CA 92260

Interested persons were invited to attend. At the public hearing, the Colorado River Basin Water Board heard testimony pertinent to the discharge, WDRs, and permit. For accuracy of the record, important testimony was requested in writing.

D. Reconsideration of Waste Discharge Requirements

Any person aggrieved by this action of the Colorado River Basin Water Board may petition the State Water Board to review the action in accordance with Water Code section 13320 and the California Code of Regulations, title 23, sections 2050 and following. The State Water Board must receive the petition by 5:00 p.m., 30 days after the date of this Order, except that if the thirtieth day following the date of this Order falls on a Saturday, Sunday, or state holiday, the petition must be received by the State Water Board by 5:00 p.m. on the next business day. Copies of the law and regulations applicable to filing petitions may be found on the Internet at:

http://www.waterboards.ca.gov/public_notices/petitions/water_quality

or will be provided upon request.

State Water Resources Control Board
Office of Chief Counsel
P.O. Box 100, 1001 I Street
Sacramento, CA 95812-0100

For instructions on how to file a petition for review, see:

http://www.waterboards.ca.gov/public_notices/petitions/water_quality/wqpetition_instr.shtml

E. Information and Copying

The Report of Waste Discharge, other supporting documents, and comments received are on file and may be inspected at the address above at any time between 8:30 a.m. and 4:45 p.m., Monday through Friday. Copying of documents may be arranged through Colorado River Basin Water Board by calling (760) 346-7491.

F. Register of Interested Persons

Any person interested in being placed on the mailing list for information regarding the WDRs and NPDES permit should contact the Colorado River Basin Water Board, reference this Facility, and provide a name, address, and phone number.

G. Additional Information

Requests for additional information or questions regarding this Order should be directed to Jose Valle de Leon at (760) 776-8940.